Eijkelkamp
Soil & Water

Read-out unit for HydraProbes

Meet the difference

Contents

On these operating instructions

☞   **If the text follows a mark (as shown on the left), this means that an important instruction follows.**

⚠️   **If the text follows a mark (as shown on the left), this means that an important warning follows relating to danger to the user or damage to the apparatus.The user is always responsible for its own personal protection.**

Text   **Italic indicated text indicates that the text concerned appears in writing on the display (or must be typed).**

1.   Description

The read-out unit SDI-12 gives immediate readings of current measurement conditions from HydraProbe soil moisture sensors. It is a useful device for viewing current measurement conditions when sensors are not connected to an SDI-12 Logger. The display unit automatically detects a sensor's address, issues the measure command, and then reports the results when the measurement is completed. Although designed with HydraProbe soil moisture sensors in mind, the read-out unit can also be used with other SDI-12 sensors (with some possible limitations).

2.   Operating the read-out unit

1. Press the *POWER* button to activate the reader. The message "*READY*" is displayed. The reader is ready to take a reading.

2. Connect a sensor to the reader's mating connector.

3. Press the *MEAS* button to start a measurement. The display shows "*READING*" while the measurement is taking place. When the measurement is finished, the results are shown. For HydraProbe sensors, there will be a label indicating the type of measurement, for example "*MOIS*" for a HydraProbe's soil moisture reading and "*TEMP*" for its temperature reading. The table below lists the labels for the various sensor types.

Sensor	Parameter measured	Label and example reading
HydraProbe Standard	Soil Moisture (%) Soil Temperature (°C)	MOIS.+23.6 TEMP.+22.8
HydraProbe Pro	Pro Soil Moisture (%) Bulk Elec. Cond (dS/m) Soil Temperature (°C) Wetting Front	MOIS.+23.6 EC.+2.06 TEMP.+22.8C WF.+n (n is 0-9)
Other SDI-12 Sensors	Unknown	VAL.n.±d.d (n is current measurement, d.d is reading value)

- For devices that support multiple measurements, you may press the *NEXT* and *PREV* buttons to scroll through the list of available measurements. Scrolling past the last measurement displays the first measurement again, and vice versa.
- You may press and hold the *MEAS* button to take continuous readings from the currently displayed measurement value. The display is updated with the new value and the next measurement will be immediately started.
- If any kind of communication error occurs, for example an attempt to measure with no sensor connected, then the message "*ERROR NO SENSOR DETECTED*" will be scrolled across the screen. Check connections, then press the *MEAS*, *NEXT* or *PREV* button to return the unit to the "*READY*" state.

3.   Auto shutoff

There is no power off button. The display unit automatically turns itself off after about 1 ½ minutes of no activity. To turn back on, simply press the *POWER* button.

4.   Other SDI-12 Sensors

The SDI-12 reader unit may be used with other third party SDI-12 sensors. Please note that the reader unit will only issue M! commands. There is no support for additional measurement commands, e.g. M1! through M9!

5.   Battery

The reader is powered by a 9V alkaline battery. If the battery voltage level drops too low (less than about 7.5V), when the unit is powered on a "*** *LOW BATTERY* ***" message will be scrolled across the display - you should change the battery if this message is shown. Open up the compartment on the back of the unit, disconnect the old battery and replace with a new 9V alkaline battery, close the battery compartment.

☞   **You can still take readings if the low battery message is received, however in many cases sensor reading accuracy is not guaranteed for a supply voltage of less than 7.5 V.**

6.   Connector pinout

Connector type: Switchcraft EN3L4F
Mating connector type: Switchcraft EN3C4M

Pin 1 Power (+9VDC)
Pin 2 SDI-12 I/O
Pin 3 not used
Pin 4 Ground/Common

EN3L4F PINOUT
FRONT VIEW

3 2
4 1

DOT